Repurposed three-door commercial freezer holds about 2,000 eggs at a time.

Old Freezer Turned Into Incubator

Bobby Colson doesn't mess around when it comes to hatching eggs. The 87-year-old only started raising poultry a few years ago. His repurposed three-door commercial freezer holds about 2,000 eggs at a time.

"The freezer didn't work anymore, so I got it for free," says Colson. "I stripped it down to just the cabinet and mounted six pieces of 1-in. metal conduit. They're tied together and can rotate."

He cut down six old racks to rest on the conduit. A short piece of metal with spokes that pivot is mounted under one piece of conduit and extends through the end of the cabinet. When it's cranked, the conduit rotates slightly, gently tipping the racks. Because the conduits are tied together, when one moves, they all move.

He repositioned the two fans that were originally in the freezer. To provide the needed heat, he mounted heating rings over the fans and connected them to an electric switch with a timer. When he sets it to 101 F, it automatically turns back on when the temperature drops to 100.

Colson purchased egg trays to fit the racks. When the trays are full, Colson pulls the metal arm once in the morning, once at noon, and once in the afternoon. Each time, the eggs move a little, first one way, then the other.

"I don't want them to turn over," he explains. "They move slightly as the hen moves in and out of the nest. That's what I'm trying to replicate."

He hung drawers behind the third door and placed the freezer/incubator in an unused 18-wheel reefer. The reefer also holds two smaller incubators and some tools. The drawers are for eggs nearly ready to hatch.

Depending on the time of year, Colson may fill the incubators with eggs from his 175 quail hens. When they aren't laying, he'll go to the local market for fertilized chicken or goose eggs.

The species determines how long the eggs stay on the racks.

"Quail eggs will stay on the trays for 14 days before being moved to the drawers," says Colson. "Chicken eggs usually take about 18 days before moving to the drawers. They hatch about three days later. About two weeks later, I'll take them back to the market to sell."

Once the chicks hatch, they're moved to old chicken houses with a heat lamp in the center of the room. They go under the lamp when they need warmth.

He notes that things don't always go according to plan. The origin of eggs from the auction market and their fertility may be unknown.

"I bought some chicken eggs last year and put them on the racks," he recalls. "Three days later, they started hatching. Now I have a farmer who says he'll sell me eggs and at less than they sell at auction."

Contact: FARM SHOW Followup, Bobby Colson, 945 Sinkhole Rd., Register, Ga. 30452 (ph 912-515-0294).

Home-Built Furnace Still Burning After Nearly 50 Years

By Jim Ruen, Contributing Editor

FARM SHOW had just wrapped up its seventh year when founder Harold Johnson stopped by Darwin Reyne's farm. He was there to see Reyne's home-built wood-burning hot water furnace, which had been built five years earlier, not long after Harold started FARM SHOW.

Harold was suitably impressed and wrote it up in Vol. 8, No. 1. When Reyne recently contacted FARM SHOW, we decided it was time for an update.

"The furnace is still operating," says Reyne. "My son lives on the farm now. The only thing we've done is to replace the grate, which was made out of an old cast-iron heating register."

The furnace measures 30 in. long, 30 in. wide, and 36 in. high. A water jacket holding about 30 gal. of water is wrapped around the 24-in. square firebox. The firebox was fabricated from 3/16-in. steel plate, with the lower half lined with firebrick. About 3 1/2 in. of insulation is wrapped around the water jacket. Reyne designed the furnace with an ash pan for easy cleaning and large enough to hold a week's worth of ashes.

"I built it in 1979 when fuel prices shot up," says Reyne. "I had an oil-fired furnace that heated water for baseboard radiators."

Reyne tied his new furnace into the existing system using the oil burner's water pump. He quickly found the wood furnace provided even better heat, warming the four-bedroom house and basement. Fully loaded, it held a fire for 10 to 12 hrs.

"We only used the oil burner if we were going to be gone for an extended period or in the spring and fall, when we just needed a little heat," he says.

The only downside he found was that the pump must run continuously while the wood is burning to prevent overheating. A 210 F pop-off valve on top of the water jacket, with a temperature gauge, serves as a safety.

"I had to override the automatic controls on the oil burner," recalls Reyne.

A few years after Harold's visit, Reyne sold the oil burner to a neighbor and replaced it with a supplemental heater of his own design.

"I made an electric unit out of 2 ft. of auger tubing and suspended it from the ceiling," says Reyne. "I put three 45-watt heating elements in it and plumbed it into the waterline from the furnace. When the water temperature drops, the thermostat kicks in the electric unit. It only holds about 2 gal. of water, but that's enough. It takes no time at all to heat up."

Original wood-fired unit on the right, with the electrical unit on the left.

When he built his furnace, Reyne estimated the materials cost at about $275. In the early 1980s, he estimated it saved him up to $1,000 a year. Even without fuel oil price fluctuations, that adds up to a nice ROI. With the ash borer taking its toll today, Reyne notes that he and his son have plenty of free wood to work with.

"He burns mostly ash wood now," says Reyne. "It's plentiful."

Contact: FARM SHOW Followup, Darwin Reyne, 200 Oak Dr., Luverne, Minn. 56156 (ph 507-449-7856).

"Our cutting edge lets the operator get down to solid ground, scraping the mud into a windrow that can be scraped off and stacked," says Brown. "As it dries, it gives the cattle an area to stand."

They Make Aerators For Any Size Compost Operation

Brown Bear Manufacturing has an aerator to fit every size compost operation.

"Our aerators don't go over the top of the windrow like most do," says Phil Brown of Brown Bear Manufacturing. "We work everything in line with a cutting edge at ground level. Straddle-type aerators leave from 1 to 3 in. unturned. Ours turns the entire windrow down to the concrete."

One benefit of the total turn feature is that it eliminates the need to leave an alleyway between the windrows. Brown's aerator moves the entire windrow to one side.

"With our aerator, you can add an extra windrow for more effective use of space," says Brown.

The company began in the drainage business, backfilling trenches after a drainage tile was laid. In the early 1980s, the company began working with the University of Nebraska to explore using its auger system to aerate compost. Brown developed self-contained compost aerators that turned organic materials and windrowed them.

Over time, demand grew for smaller skid steer and tractor-mounted compost aerators.

"We build aerators for skid steers and tractors from 30 to 60 hp and 100 to 160 hp," says Brown. "They're used for composting municipal and commercial yard waste, as well as dairy, beef and poultry waste. Wherever there's organic waste, our aerators are working."

According to Brown, the aerators serve dual purposes in feedlots. They reduce volume and stabilize nutrients through composting. However, when feedlots get wet and sloppy, they're used to scrape away the mud.

"Our cutting edge lets the operator get down to solid ground, scraping the mud into a windrow that can be scraped off and stacked," says Brown. "As it dries, it gives the cattle an area to stand."

The base price for the company's aerators starts at around $42,000 to $44,000 for the smallest unit. A 20-gal. oil reservoir is mounted to the rear 3-pt. hitch. Fluid from the PTO-mounted pump travels to the aerator/windrower mounts on the tractor's loader arms or to a front 3-pt. hitch.

Brown Bear also manufactures heavy-duty tractors for use with their attachments, ranging from 148 to 375 hp. They feature hydrostatic drive systems for motive power and implement drive, front and rear.

In addition to compost aerators, compatible front-mount attachments include augers, snowblowers and forklifts. Common rear attachments include backhoes, winches, scarifiers/rippers and towable implements.

The company also manufactures all-terrain carriers (415 hp) and brush cutters/mulchers. The latter range from use with 25 to 55 gal. per min. skid steers and front and rear-mount tractors from 85 to 160 hp, to one that requires the company's 350-hp tractor and can be customized to the end use.

Brown Bear Manufacturing is a subsidiary of Broyhill Company.

Contact: FARM SHOW Followup, Brown Bear Manufacturing, Dakota City, Neb. 68731 (ph 402-987-3412; sales@broyhill.com; www.brownbearmfg.com).